

IN THE CLAIMS

Please cancel claims 83-91, and replace the pending claims with the following amended claims. In accordance with the newly instituted revised amendment format, a complete set of claims follows, with new material to be added to the claims shown as underlined, and material to be deleted shown as ~~struck through~~.

Claims 1-50 (Previously cancelled).

Claim 51 (Previously amended). A support comprising a surface on which an assay for an analyte of interest can be performed, comprising:

an attachment layer comprising diamond-like carbon on the support surface, wherein the attachment layer is adapted for capture of the analyte of interest for detection in the assay by binding the analyte directly to the diamond-like carbon.

Claim 52 (Previously added). A support according to claim 51, wherein the attachment layer comprises a layer of diamond-like carbon of between about 50 Å to about 3000 Å in thickness.

Claim 53 (Previously amended). A support according to claim 51, wherein the degree of hydrophobicity of the attachment layer results from a preselected sp^2 and sp^3 character of the diamond-like carbon.

Claim 54 (Previously added). A support according to claim 51, wherein the diamond-like carbon is configured to function as an antireflective layer.

Claim 55 (Previously added). A support according to claim 51, wherein the support further comprises an optically functional layer interposed between the support surface and the attachment layer.

Claim 56 (Previously added). A support according to claim 51, wherein the support provides a change in optical thickness upon binding of the analyte capable of attenuating one or more wavelengths of light.

Claim 57 (Previously amended). A support according to claim 51, wherein the support provides laminar flow through or across the support.

Claim 58 (Previously added). A support according to claim 51, wherein the attachment layer comprises diamond-like carbon in a form selected from the group consisting of synthetic diamond, natural diamond, industrial diamond, monocrystalline diamond, resin-type diamond, polycrystalline diamond, amorphous carbon with diamond-like hardness and surface energy properties, amorphous hydrogenated diamond-like carbon, and non-crystalline to crystalline carbon films with diamond-like hardness and surface energy properties.

Claim 59 (Previously added). A support according to claim 51, wherein the diamond-like carbon comprises non-carbon material.

Claim 60 (Previously added). A support according to claim 59, selected from the group consisting of hydrogen, silicon, and nitrogen.

Claim 61 (Previously added). A support according to claim 51, wherein the support comprises a material that is not compatible with high temperatures.

Claim 62 (Previously added). A support according to claim 61, wherein said high temperature is greater than 100°C.

63 (Amended). A support according to claim 61, wherein the material that is not compatible with high temperatures is selected from the group consisting of cellulose acetate, polyethylene terephthalate (PETE), polyester, polycarbonate, nylon, filter paper, polysulfones, polypropylene, and polyurethane.

Claim 64 (Previously added). A support according to claim 61, wherein the diamond like carbon has a hardness of about 15 to about 50 Gpa.

Claim 65 (Previously added). A support according to claim 61, wherein the attachment layer has a refractive index of about 1.5 to about 2.2.

Claim 66 (Previously added). A support according to claim 51, wherein said support is a biosensor.

Claim 67 (Previously amended). A support comprising a surface on which an assay for an analyte of interest can be performed, comprising:

an attachment layer comprising a layer of diamond-like carbon of between about 50 Å to about 500 Å in thickness on the support surface, wherein said attachment layer comprises a capture molecule bound to said diamond-like carbon for specific capture of said analyte by binding said analyte to said capture molecule.

Claim 68 (Previously added). A support according to claim 67, wherein said capture molecule is selected from the group consisting of an antigen, an antibody, a receptor, a nucleic acid, an RNA, a DNA, a polysaccharide, a lipopolysaccharide, an enzyme, a protein, a microorganism, a hapten, a drug, a ligand, and a chelator.

Claim 69 (Previously amended). A support according to claim 67, wherein a degree of hydrophobicity of the attachment layer results from a preselected sp^2 and sp^3 character of the diamond-like carbon.

Claim 70 (Previously amended). A support according to claim 67, wherein said diamond-like carbon is an antireflective layer.

Claim 71 (Previously added). A support according to claim 67, wherein said support further comprises an optically functional layer interposed between said surface and said attachment layer.

Claim 72 (Previously added). A support according to claim 67, wherein said support provides a change in optical thickness upon binding of said analyte capable of attenuating one or more wavelengths of light.

Claim 73 (Previously amended). A support according to claim 67, wherein said support provides laminar flow through or across said support.

Claim 74 (Previously added). A support according to claim 67, wherein said attachment layer comprises diamond-like carbon in a form selected from the group consisting of synthetic diamond, natural diamond, industrial diamond, monocrystalline diamond, resin-type diamond, polycrystalline diamond, amorphous carbon with diamond-like hardness and surface energy properties, amorphous hydrogenated diamond-like carbon, and non-crystalline to crystalline carbon films with diamond-like hardness and surface energy properties.

Claim 75 (Previously added). A support according to claim 67, wherein the diamond-like carbon comprises non-carbon material.

Claim 76 (Previously added). A support according to claim 75, wherein the non-carbon material is selected from the group consisting of hydrogen, silicon, and nitrogen.

Claim 77 (Previously added). A support according to claim 67, wherein the support comprises a material that is not compatible with high temperatures.

Claim 78 (Previously added). A support according to claim 77, wherein said high temperature is greater than 100°C.

79 (Amended). A support according to claim 77, wherein the material that is not compatible with high temperatures is selected from the group consisting of cellulose acetate, polyethylene terephthalate (PETE), polyester, polycarbonate, nylon, filter paper, polysulfones, polypropylene, and polyurethane.

Claim 80 (Previously added). A support according to claim 77, wherein the diamond like carbon has a hardness of about 15 to about 50 Gpa.

Claim 81 (Previously added). A support according to claim 77, wherein the attachment layer has a refractive index of about 1.5 to about 2.2.

Claim 82 (Previously added). A support according to claim 67, wherein said support is a biosensor.

Claims 83-91 (Cancelled).